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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/518,201

10/06/2005

Wei Huang

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5242

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EXAMINER

YOON, TAE H

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

09/14/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/518,201	<b>Applicant(s)</b> HUANG ET AL.	
	<b>Examiner</b> Tae H. Yoon	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 18-23,25-27,30-36,41-49 and 51-56 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-23,25-27,30-36,41-49 and 51-56 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 18-23, 25-27, 30-36, 41-49 and 51-56 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Now claims recite “consisting of” which is a closed term as also pointed out by applicant, but claim also recites an open term, “comprising” in “a solvent system comprising” (claims 18, 36 and 42) and “comprises” in “the structural constituent comprises” (claim 36) and “the solvent system comprises” (claim 42). Thus, metes and bounds of claims are unclear and confusing and claims are indefinite.

The recited “the intermolecular forces” in claim 43 lacks antecedent basis in claim 36 and thus it is indefinite. Also, “the surface forces” in claim 44 lacks antecedent basis in claim 36 and thus it is indefinite.

The recited “hydrocarbon surfactant” and “fluorocarbon surfactant” in claims 24 and 51 are unclear and confusing, and thus they are indefinite. For example, does said hydrocarbon surfactant comprise hydrogen and carbon atoms only or other atoms such as oxygen as well?

The recited “the solvent system comprises PGMEA, ethyl lactate, propylene glycol methyl ether, diethylene glycol, 2-propanol, acetone or a combination thereof” in claim 42 is unclear and confusing and improperly broadens scope of claim 36 wherein the solvent system comprising at least one alcohol and at least one ether acetate-based solvent is recited. Said ethyl lactate, propylene glycol methyl ether, diethylene glycol,

acetone or a combination thereof fall outside scope of the solvent in claim 36. Also, said PGMEA and 2-propanol fall outside scope of the solvent in claim 36 as a single solvent.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18-22, 24, 25, 36, 41-49, 51 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over FR 281602 in view of Hattori (US 6,165,676) and further in view of Miyamoto et al (US 6,808,857).

FR teaches two-part composition in English abstract. One part contains resol-based resin and another part contains a catalyst. FR further teaches employing a combination of a surfactant and novolac resin in a form of a dispersion in the resin or catalyst component. Thus, an addition of said dispersion containing a combination of a surfactant and novolac resin in said resol-based resin part would be a *prima facie* obviousness since there are only two options, in the resin or catalyst component. The instantly recites properties are inherent in the resol component (dispersion) of FR.

The instant invention further recites a solvent system comprising at least one alcohol and at least one ether acetate-based solvent and hydrocarbon and fluorocarbon surfactants over FR. However, said dispersion would contain solvent(s) inherently as taught by Miyamoto et al (coll. 8, lines 53-55). Hattori teaches a mixture of solvents A

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and B for novolac polymers at col. 4, lines 11-67. One of the solvent A comprises isopropyl alcohol (2-propanol, line 14) and one of the solvent B comprises propylene glycol monomethylether acetate, (PGMEA, lines 48-49). Hattori also teaches various surfactants at cols. 29 and 30.

Thus, it would have been obvious to one skilled in the art at the time of invention to utilize a mixed solvent of isopropyl alcohol (2-propanol) and propylene glycol monomethylether acetate of Hattori in the resol-based resin part containing a combination of a surfactant and novolac resin of FR in order to obtain a dispersion since utilization of a mixed solvents is well known in the art and since FR teaches dispersion which would inherently contain solvent(s) as taught by Miyamoto et al absent showing otherwise.

Claims 18-21, 24, 25, 36, 41-49, 51 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over FR 281602 in view of Drage (US 5,858,547) and further in view of Miyamoto et al (US 6,808,857).

FR and Miyamoto et al are discussed above.

The instant invention further recites a solvent system comprising at least one alcohol and at least one ether acetate-based solvent and hydrocarbon and fluorocarbon surfactants over FR.

Drage teaches various surfactants at col. lines 23-67 and solvents including isopropyl alcohol (2-propanol) and ether acetate and combinations thereof for novolac polymers at col. 5, lines 4-25.

Thus, it would have been obvious to one skilled in the art at the time of invention to utilize a mixed solvent of isopropyl alcohol (2-propanol) and propylene glycol monomethylether acetate of Drage in the resol-based resin part containing a combination of a surfactant and novolac resin of FR in order to obtain a dispersion since utilization of a mixed solvents is well known in the art and since FR teaches dispersion which would inherently contain solvent(s) as taught by Miyamoto et al absent showing otherwise.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tae H. Yoon whose telephone number is (571) 272-1128. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tae H Yoon/  
Primary Examiner  
Art Unit 1796

THY/September 11, 2009